

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	7500 140 th Avenue NE Flooding Problem
Project Cost:	\$50,000
Project Location:	7500 140 th Avenue NE
Project Description:	On 138th Place NE there is a low point in the road between NE 74 th and NE 75 th Streets. There is a thru curb inlet and catch basin at the location that adequately conveys the street runoff under normal storm conditions. Once rainfall rates exceed normal conditions or if fall leaves are present, the inlet is overwhelmed and water floods between two homes to 139 th Court and on out to 140 th Avenue. This problem is compounded during heavy rains because NE 75 th Street (in the vicinity of Rose Hill Junior High School) has a very steep slope and the catch basins only pick up a fraction of their capacity. The flow that bypasses ends up in the low point on 138 th Place NE. The project will involve construction of a safe overflow route for excessive storms and improved catch capacity for uphill inlets on NE 75 th Street.
Project Justification:	Flooding has occurred several times in the last ten years resulting in private property damage. To minimize the flooding more than routine maintenance is performed. Additionally, there is minor inconvenience to local transportation during flooding events.
General Fund Impact:	None.
Project Schedule:	2003

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000
<u>Total Project Revenues</u>							
SW CIP	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	Rose Hill Area Detention Pond (was 7500 block 140 th)
Project Cost:	\$1,000,000
Project Location:	Rose Hill Neighborhood
Project Description:	Peters Creek is one of the largest creek systems in Redmond. In 1997 a study was done to identify potential problems in the basin. That report identified numerous erosion areas in the creeks that contributes to flooding and water quality problems. Since that time the City has been actively working to address the problems. Much of the problem stem from lack of storm water controls in the basin. The City has constructed a large diversion trunk line on the mainstem of the creek. A diversion was not feasible on the west branch; therefore three stormwater ponds are required to control the runoff before it enters the creek system. The Scott pond at 140 th Avenue NE and Redmond Way was completed in 2001. Another pond across the street in planned for 2003. The Rose Hill area pond would be the third pond to control the area. Project includes purchase of land and construction of a stormwater retention pond.
Project Justification:	Without these additional stormwater controls the west branch of Peters Creek will continue to experience significant erosion. The erosion has caused upstream property damage and has potential to contribute to landslides. The eroded material has caused flooding of downstream businesses and major water quality problems. Additionally, significant City maintenance time is needed to minimize these ongoing problems.
General Fund Impact:	None.
Project Schedule:	2003-2004

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>Total 2003-2008</u>
Total Project Cost	\$400,000	\$600,000	\$0	\$0	\$0	\$0	\$1,000,000
<u>Total Project Revenues</u>							
SW CIP	\$400,000	\$600,000	\$0	\$0	\$0	\$0	\$1,000,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	NE 116 th Street Bridge Contribution
Project Cost:	\$350,000
Project Location:	NE 116 th Street at the Sammamish River, approximately one-half mile east of Willows Road
Project Description:	This money represents the Stormwater and Natural Resources contribution to work associated with reconstruction of the NE 116 th Street bridge over the Sammamish River. Work includes demolition of the existing bridge; reconstruction of the roadway approaches; realignment of trails; constructing retaining walls to minimize impacts to adjacent wetlands; mitigation for impacts to wetlands, a stream, and the Sammamish River; and providing stormwater conveyance and water quality facilities.
Project Justification:	The existing bridge is currently categorized as structurally deficient, functionally obsolete, and load-restricted. Although the bridge is jointly owned by the City of Redmond and King County, King County is acting as the lead agency for this project, under the terms of an interlocal agreement between the two agencies. These funds are the City's share to cover costs for the design and construction of stormwater conveyance and water quality treatment.
General Fund Impact:	None. These funds are generated by the Stormwater Utility.
Project Schedule:	The project is currently in the design phase. Construction is anticipated in 2004.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$150,000	\$200,000	\$0	\$0	\$0	\$0	\$350,000
<u>Total Project Revenues</u>							
SW CIP	\$150,000	\$200,000	\$0	\$0	\$0	\$0	\$350,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	116 th Street Culvert Replacement
Project Cost:	\$725,000
Project Location:	NE 116 th Street at approximate cross street 166 th Avenue NE
Project Description:	Existing concrete box culvert is falling apart. 116 th Street is due to be rebuilt to support development activity to the north. Concern that it would fail before plans were finalized on the street prompted installation of a culvert liner in 2000. The Department of Fish and Wildlife permitted the liner project with the understanding that the culvert would be rebuilt for fish passage when the street was reconstructed (less than 5 years). It is projected that the 116 th Street road work and the culvert should be reconstructed in 2004.
Project Justification:	Culvert is falling apart. Liner installed in 2000 should be sufficient for several years. However, the liner is not a long-term solution. Additionally, the City has made commitments to the Department of Fish and Wildlife that the culvert would be reconstructed to be fish-passable by 2005.
General Fund Impact:	Project does not impact General Fund but is dependant on General Fund project.
Project Schedule:	2004 design, 2005 construction (with 116 th Street reconstruction project)

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$0	\$125,000	\$600,000	\$0	\$0	\$0	\$725,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$125,000	\$600,000	\$0	\$0	\$0	\$725,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	Tiburon 2 Swale
Project Cost:	\$20,000
Project Location:	NE 32 nd Street off 177 th Avenue NE
Project Description:	The Tiburon neighborhood has experienced landslides for many years; the area is steep and drains poorly. Asphalt-lined swales were installed to divert water draining down the steep slopes to help limit erosion and landslides. The swales are in disrepair due to normal aging, root and plant intrusion. The project involves repairing the swales as needed.
Project Justification:	Deterioration of the swales now allows water to permeate the steep slope, possibly contributing to landslides in the area.
General Fund Impact:	None.
Project Schedule:	2003

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$20,000	\$0	\$0	\$0	\$0	\$0	\$20,000
<u>Total Project Revenues</u>							
SW CIP	\$20,000	\$0	\$0	\$0	\$0	\$0	\$20,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Project #71 – Peters Creek, West Branch, Reach 2 (KCM Projects WB2-I, J) (02055wt350)
Project Cost:	\$200,000 – \$500,000
Project Location:	South of NE 84 th Court and east of 142 nd Avenue NE
Project Description:	Channel is eroded 5-20 feet for an approximate length of 400 feet. Riparian habitat of this section of type 3 stream has been totally destroyed by uncontrolled storm flows. Water quality of receiving salmon stream is impacted by sediment load. Project involves removal and disposal of trash and debris accumulated in the channel. Selectively remove or reposition woody debris. Construct slope toe protection and headcut structures. Incorporate live stake and rooted vegetation in structures and banks.
Project Justification:	The material from the eroded banks poses a significant physical impact to the ravine and the flow capacity and habitat downstream. The eroded areas threaten the yards of four properties. A slope failure beneath a residential deck resulted in the loss of the deck. The problem is aesthetically displeasing for several homes or the equivalent of a small neighborhood.
General Fund Impact:	N/A
Project Schedule:	Study, design, permit in 2006-2007. Construct in 2008 and then maintain.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$0	\$0	\$0	\$10,000	\$45,000	\$290,000	\$345,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$10,000	\$45,000	\$290,000	\$345,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Project #92 – Willows Industrial Park Stream Daylighting (01060ms925)
Project Cost:	\$30,000 – \$600,000 based on 500 feet of channel at \$850/l.f. and 23,500 square feet of easement acquisition at \$1.50/s.f.
Project Location:	North of 149XX NE 95 th Street
Project Description:	This Class 2 creek drains approximately 306 acres and enters 150 feet of pipe underneath a commercial building. The location where the stream enters the building is higher than that of the adjacent parking area. Removing the stream from the building will greatly reduce the flooding potential and significantly improve the habitat conditions. Project involves removal of the stream from under the building by daylighting it in a channel in the power easement north of the property. This involves easement acquisition and construction of approximately 500 feet of stream channel.
Project Justification:	The stream conveyance under the building is a flooding nuisance for property owners. The extended length of pipe under the building is believed to constitute a fish passage barrier to the upper reaches of Willows Creek for salmonids including Chinook salmon. This project could be considered a high-payback project, although it is somewhat complicated. The aesthetic value of the stream would be improved substantially.
General Fund Impact:	N/A
Project Schedule:	Study, design, permit in 2003-2004. Construct in 2005 and then maintain.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$20,000	\$125,000	\$355,000	\$8,000	\$5,000	\$5,000	\$518,000
<u>Total Project Revenues</u>							
SW CIP	\$20,000	\$125,000	\$355,000	\$8,000	\$5,000	\$5,000	\$518,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Project #86 – Valley Estates Tributary Culvert Retrofit/replacement (06120ms950)
Project Cost:	\$100,000 – \$300,000
Project Location:	Tributary through Valley Estates at confluence with Sammamish River in vicinity of NE 107 th Street
Project Description:	<p>Class 3 stream enters a 3 foot-diameter culvert for a distance of about 55 feet where it crosses under the Sammamish River Trail and meets the Sammamish River. The culvert invert appears to be about 6' above the current low-flow water surface. There is a broad riffle in the river created by gravel deposited from the tributary.</p> <p>Replace the culvert with a larger one, step up the grade at the outfall using weirs, and restore channel downstream.</p>
Project Justification:	Establishing a connection to the river that is fish-passable would provide approximately 2,000 feet of habitat for fish use. Aesthetically displeasing for trail users. A metro sewer line lies beneath the existing culvert which may increase construction costs and place other limitations on the project.
General Fund Impact:	N/A
Project Schedule:	Study, design, permit in 2006. Construct in 2007; 1-yr. maintenance.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$0	\$0	\$0	\$65,000	\$175,000	\$10,000	\$250,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$65,000	\$175,000	\$10,000	\$250,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Lower Country Creek Improvements (09030ms975, ms950, ms925)
Project Cost:	\$270,000
Project Location:	Between West Lake Sammamish Parkway and Sammamish River
Project Description:	<p>Banks of this Class 3 stream are eroded less than 5 feet. Buffers are minimal with invasive vegetation predominating. There is minimal pool or in-stream habitat. No fish are known to use this section of stream; however, it connects to the Sammamish River and there seem to be no barriers that prohibit fish use. The contributing basin is approximately 187 acres in size.</p> <p>Regrade banks and install structures in streambed to dissipate energy and improve fish habitat. Revegetate banks with native vegetation. Re-establish flood plain (would require acquisition or creative easement).</p>
Project Justification:	Eroded banks and degraded buffer are a physical impact to a potential fish-bearing stream for a length of about 1,500 feet. Meets regional goals under the Endangered Species Act.
General Fund Impact:	N/A
Project Schedule:	Construct in 2008

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$0	\$0	\$0	\$0	\$55,000	\$215,000	\$270,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$0	\$55,000	\$215,000	\$270,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Peters Creek West Branch – East of 82 nd Street (KCM Projects WB2-B, C, D) (02055ws450)
Project Cost:	\$93,000
Project Location:	Between 148 th Avenue NE and 142 nd Avenue NE, north of Redmond Way
Project Description:	<p>Approximately 500 feet of channel is eroding (3' - 5') because of debris jams deflecting flows against the banks. Water quality in this Type 2 salmon stream is impacted by sediment load. Severe undercutting is causing bank to fail. The project is located on private property, but is within an NGPE. The contributing basin is approximately 459 acres in size.</p> <p>Selectively remove and relocate woody debris. Construct log and rock toe protection. Redirect flows using rock weirs and deflector logs. Incorporate rooted and live-stake vegetation in structures above active flow channel. Revegetate slope. Reroute drainage from upper slopes. Because of limited access, much if not all of the work would be done by hand.</p>
Project Justification:	The material from the eroded banks poses a public nuisance to the ravine and the flow capacity and habitat downstream. No building or developable property is impacted. The problem affects several homes or the equivalent of a small neighborhood.
General Fund Impact:	N/A
Project Schedule:	Construct in 2007

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$0	\$0	\$0	\$25,000	\$60,000	\$8,000	\$93,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$25,000	\$60,000	\$8,000	\$93,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	Hartman Park Detention and Water Quality
Project Cost:	\$480,000
Project Location:	172 nd Avenue NE between NE 100 th Street and NE 104 th Street
Project Description:	172 nd Avenue NE between NE 100 th Street and NE 104 th Street requires a detention and water quality facility to protect the wetland that lies east of 172 nd Avenue NE and north of NE 100 th Street. The street has been widened in small increments in the last five years and the stormwater management facilities were deferred to be combined into one project. Plan is to construct a small detention/water quality wet pond to serve the drainage area.
Project Justification:	The undetained flows cause sudden water surface fluctuations in the small neighborhood wetland, which is a significant impact to the wetland character. The undetained flows further eroded the outfall channel of the wetland and can destabilize the bank of the channel in the small neighborhood downstream of the wetland. Recent bank armoring of the outfall channel has diminished this effect.
General Fund Impact:	N/A
Project Schedule:	Construct in 2008

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$0	\$0	\$0	\$0	\$130,000	\$350,000	\$480,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$0	\$130,000	\$350,000	\$480,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name: Sammamish Valley Open Space Acquisition

Project Cost: +/- \$1.2 million – \$520,000 Stormwater Utility/\$700,000 grants

Project Location: Adjacent to Sammamish River between NE 100th and NE 109th Streets

Project Description: Purchase approximately 20 acres of valley floor open space for preservation and habitat enhancement. Low-impact trails and interpretive elements may be included in future restoration efforts.

Project Justification: Open space preservation along with Sammamish River Trail and habitat enhancement, benefiting salmon and other wildlife.

General Fund Impact: N/A

Project Schedule: Complete acquisition in 2003.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$520,000	\$0	\$0	\$0	\$0	\$0	\$520,000
<u>Total Project Revenues</u>							
SW CIP	\$520,000	\$0	\$0	\$0	\$0	\$0	\$520,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	NE 80 th Street between 164 th Avenue NE & 166 th Avenue NE
Project Cost:	\$300,000
Project Location:	NE 80 th Street between 164 th Avenue NE & 166 th Avenue NE
Project Description:	This area of Downtown is extremely flat, limiting the slope and therefore the capacity of the drainage system. In addition, the storm drainage system was built in pieces that were connected over time. The alignment of the system goes from NE 80 th at 164 th north to NE 83 rd then west to 166 th and then south to NE 80 th . This four-block jog in the line and the energy losses at the four 90 degree bends severely limit the system capacity. This project involves construction of approximately 300 feet of storm drainage line to eliminate a four-block jog in the system.
Project Justification:	The area has experienced minor flooding in the past, and proposed upstream development (Education Hill Townhomes, scheduled to begin construction fall 2002) will further exacerbate the problem.
General Fund Impact:	None.
Project Schedule:	2003

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total 2003-2008
Total Project Cost	\$300,000	\$0	\$0	\$0	\$0	\$0	\$300,000
<u>Total Project Revenues</u>							
SW CIP	\$300,000	\$0	\$0	\$0	\$0	\$0	\$300,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Project #70 – Peters Creek, S. Tributary (KCM Projects WB2-F, G, H) (02055wt400)
Project Cost:	\$300,000 – \$600,000
Project Location:	North of Redmond Way at what would be approximately 145 th Avenue NE. Nearest cross street is 142 nd Avenue NE.
Project Description:	<p>Channel is eroded (3' – 5') for an approximate length of 500 feet. Riparian habitat of this section of type 2 stream has been totally destroyed by uncontrolled storm flows. A severe slide deposited several feet of material in the stream in January 1997. The culvert extension under Redmond Way is damaged and partially plugged.</p> <p>Project involves repair and/or replacement of culvert. Reroute or repair lateral pipes and extend down to streambed. Provide energy dissipaters at all appropriate outlets. Repair eroded slopes and backfill channel to return to natural grade. Install large wood structures and streambed gravel. Plant entire project area with native vegetation to stabilize slope surface and provide habitat.</p>
Project Justification:	The material from the eroded banks poses a significant physical impact to the ravine and the flow capacity and habitat downstream. The eroded areas do not currently threaten any structure, but have triggered a minor slide behind one home. If the channel is not repaired the continued washing away of material may cause structural damage to a residential deck. The problem affects several homes or the equivalent of a small neighborhood. Sediment from this reach is transported downstream where fish reside and spawn. A sediment pond has been constructed in the channel downstream to try to capture much of the sediment load. Without routine maintenance (every 2-3 years) including dredging of the pond (~500 cubic yards and 250 man-hours), significant habitat would be impaired and adjacent apartments could be flooded.
General Fund Impact:	N/A
Project Schedule:	Study, design, permit in 2005-2006. Construct in 2007 and then maintain.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>Total 2003-2008</u>
Total Project Cost	\$0	\$0	\$25,000	\$75,000	\$450,000	\$8,000	\$558,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$25,000	\$75,000	\$450,000	\$8,000	\$558,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Project #95 – Valley Estates Bank Stabilization (06120ms900)
Project Cost:	\$250,000 – \$750,000
Project Location:	Valley Estates NGPE in vicinity of 108XX 157 th Avenue NE
Project Description:	<p>This Class 3 stream through the Valley Estates subdivision is eroded, contributing sediment to the Sammamish River. Salmonids, including Chinook, use the Sammamish River as a migration route to spawning grounds.</p> <p>Project involves stabilizing the banks using traditional and bioengineering techniques such as slope regrading, toe protection, weirs, brush mattress, and streambank vegetation. Improve habitat component for fish use including woody debris and streambed gravel.</p>
Project Justification:	Erosion is aesthetically displeasing for the small neighborhood and is a physical impact to the Sammamish River. Approximately 1,000 feet of stream would be improved for fish habitat.
General Fund Impact:	N/A
Project Schedule:	Study, design, permit in 2004-2005. Construct in 2007.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$0	\$30,000	\$95,000	\$615,000	\$0	\$0	\$740,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$30,000	\$95,000	\$615,000	\$0	\$0	\$740,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION**Project Name:** 5050 West Lake Sammamish Parkway Culvert Replacement**Project Cost:** \$360,000**Project Location:** Approximately 5050 West Lake Sammamish Parkway

Project Description: This Class II stream is conveyed in two 36-inch culverts, which are approximately 67 feet in length. It serves a basin area of approximately 143 acres. During heavy rains, the culvert exceeds capacity and the inlet periodically clogs with debris threatening to flood across West Lake Sammamish Parkway. West Lake Sammamish Parkway flooded in 1982. Fish passage is suspect. The culvert is located within the public right-of-way.

Further investigation is needed to determine the integrity, capacity and fish passage status of the culvert. Depending on the outcome of the investigation, replace the culvert with one that has adequate capacity, is fish-passable, allows debris to flow through, and is extended beyond the edge of pavement. This amounts to approximately 67 feet of 5x12 box culvert with a stream channel simulated through the culvert.

Project Justification: Safety is of concern because culvert ends do not extend beyond the roadway shoulder. The stream conveyance under West Lake Sammamish Parkway impairs fish passage to the stream's upper reaches. Approximately one mile of Class II stream channel is available upstream of the culvert. Maintenance crews periodically (less than once per year) remove debris from the inlet. This project could be considered straightforward with a high payback.

General Fund Impact: N/A**Project Schedule:** Construct in 2008.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>Total 2003-2008</u>
Total Project Cost	\$0	\$0	\$0	\$0	\$85,000	\$275,000	\$360,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$0	\$85,000	\$275,000	\$360,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	116 th Street Culvert and Stream Relocation at Fischer
Project Cost:	\$210,000
Project Location:	The project is located on NE 116 th Street at approximately 177XX in the vicinity of the proposed Fischer Village development
Project Description:	Approximately 400 lineal feet of this Class 3 stream has been diverted into a roadside ditch which parallels a section of NE 116 th Street along its south edge. Project involves relocating the stream away from the roadway, installing wood structures and streambed gravel, planting with native vegetation, wetland enhancement, and replacing the culvert crossing under NE 116 th Street in conjunction with the road widening proposed by the Transportation division.
Project Justification:	The location of the stream poses a threat to water quality. The stream will be impacted significantly by the proposed widening and/or realignment of NE 166 th Street. This project will protect water quality and improve habitat for terrestrial and aquatic wildlife.
General Fund Impact:	None. This project is funded by the Stormwater Utility.
Project Schedule:	Construction is anticipated to begin in 2004.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>Total 2003-2008</u>
Total Project Cost	\$75,000	\$135,000	\$0	\$0	\$0	\$0	\$210,000
<u>Total Project Revenues</u>							
SW CIP	\$75,000	\$135,000	\$0	\$0	\$0	\$0	\$210,000

NEW STORMWATER CIP PROJECT DESCRIPTION**Project Name:** Flooding and Street Improvements at 142nd Avenue NE and NE 83rd Street**Project Cost:** \$103,000**Project Location:** 142nd Avenue NE at NE 183rd Street**Project Description:** The existing storm drain system in 142nd Avenue NE and NE 83rd Street is under capacity during peak storm events, resulting in localized flooding of 142nd Avenue NE. Plan to construct a new conveyance system to manage all flows. Cost is based on 100 l.f. of culvert at approximately \$150/l.f.**Project Justification:** The flooding of the road presents a significant physical impact to the residential block when freezing occurs during cold weather.**General Fund Impact:** N/A**Project Schedule:** Construct in 2007.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$0	\$0	\$0	\$35,000	\$68,000	\$0	\$103,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$35,000	\$68,000	\$0	\$103,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	Pipe Damage from Roots at 177 th Avenue NE and NE 35 th Street
Project Cost:	\$30,000
Project Location:	177 th Avenue NE and NE 35 th Street
Project Description:	Tree roots are blocking stormwater flows through existing storm drains near the intersection of 177 th Avenue NE and NE 35 th Street. Plan is to construct 200 feet of new storm line that is away from the trees and resistant to root penetration.
Project Justification:	The root blockage is a nuisance problem and affects the conveyance capacity of the existing system. This problem requires ongoing maintenance in a one-block area. Completing this project would reduce maintenance time and costs and ensure adequate conveyance capacity.
General Fund Impact:	N/A
Project Schedule:	Construct in 2006.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$0	\$0	\$0	\$30,000	\$0	\$0	\$30,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$0	\$30,000	\$0	\$0	\$30,000

NEW STORMWATER CIP PROJECT DESCRIPTION

Project Name:	Welcome Park Pond Construction
Project Cost:	\$335,000
Project Location:	The project is located in the “Welcome Open Space” on the west side on 142 nd Avenue NE at approximately 82XXX.
Project Description:	The project consists of construction of a regional detention pond to detain stormwater flows and treat water quality from an area of approximately 50 acres.
Project Justification:	<p>This area was developed prior to regulations that required stormwater management. As a result, unregulated stormwater discharges are causing serious erosion downstream. The eroded areas threaten several private properties. A slope failure beneath a residential deck resulted in the loss of that deck. Sediment from this reach is transported downstream where fish reside and spawn, impacting habitat and water quality.</p> <p>Maintenance crews must routinely dredge a sediment pond (~500 cubic yards and 250 man-hours) downstream to remove accumulated sediment. The problem is aesthetically displeasing for several homes or the equivalent of a small neighborhood.</p> <p>This project will protect water quality and improve habitat for terrestrial and aquatic wildlife.</p>
General Fund Impact:	None. This project is funded by the Stormwater Utility.
Project Schedule:	Study, design, permit in 2007. Construct in 2008.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>Total 2003-2008</u>
Total Project Cost	\$0	\$0	\$85,000	\$250,000	\$0	\$0	\$335,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$0	\$85,000	\$250,000	\$0	\$0	\$335,000

NEW NATURAL RESOURCES CIP PROJECT DESCRIPTION

Project Name:	Project #96 – Peters Creek Culvert Replacement (KCM Projects 2B and 2C) (02055ms900)
Project Cost:	\$100,000 – \$400,000
Project Location:	Main stem crossing at NE 87 th Street
Project Description:	In July of 1994, the twin 48" culverts became partially blocked by sediment and overflowed NE 87 th Street, flooding the roadway and storage business across the street. Since then significant ongoing maintenance is required to minimize flooding potential. Replace the twin culverts under NE 87 th Street with a single bottomless box or arch culvert with headwalls. Remove non-native ivy to aid in inspection. Provide low bank stabilization and improve instream habitat and riparian areas in streambank. Add large woody debris such as root wads; install log weirs, rock weirs and deflectors. Construct toe protection and plant native vegetation.
Project Justification:	Flooding of a residential-block-sized business and a public roadway occurred in 1994. Moderate erosion constitutes an aesthetic nuisance to the deposition at the culvert. Channel from culvert (upstream 300 feet to confluence with west branch) has few pools and little instream habitat diversity, constituting a significant physical impact basin-wide for Chinook, Coho and Cutthroat. The maintenance crews clean the culvert routinely.
General Fund Impact:	N/A
Project Schedule:	Study, design, permit in 2004-2005. Construct in 2006 and then maintain.

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	Total <u>2003-2008</u>
Total Project Cost	\$0	\$20,000	\$40,000	\$250,000	\$8,000	\$8,000	\$326,000
<u>Total Project Revenues</u>							
SW CIP	\$0	\$20,000	\$40,000	\$250,000	\$8,000	\$8,000	\$326,000